TERMINAL UNIT
10
PRINTER
50
ADVERTISEMENT
SHOPPING
READING APPARATUS
○× SOTRE A
70
IDENTIFYING INFORMATION
INTERNET
40
CONSUMABLES ORDERING APPARATUS
20
PRINTING MANAGING APPARATUS
30
ADVERTISEMENT INFORMATION SENDING APPARATUS
60

FIG. 1

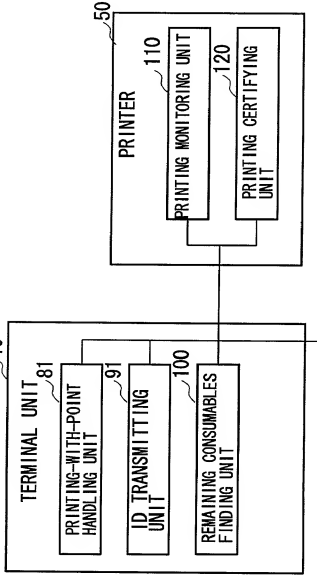
50
PRINTER
110
PRINTING MONITORING UNIT
120
PRINTING CERTIFYING UNIT
10
TERMINAL UNIT
81
PRINTING-WITH-POINT HANDLING UNIT
91
ID TRANSMITTING UNIT
100
REMAINING CONSUMABLES FINDING UNIT
40

FIG. 2

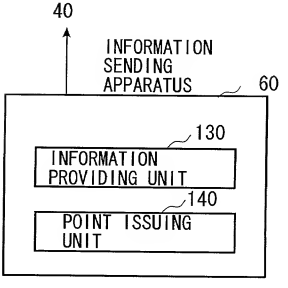
40
INFORMATION SENDING APPARATUS
60
130
INFORMATION PROVIDING UNIT
140
POINT ISSUING UNIT

FIG . 3

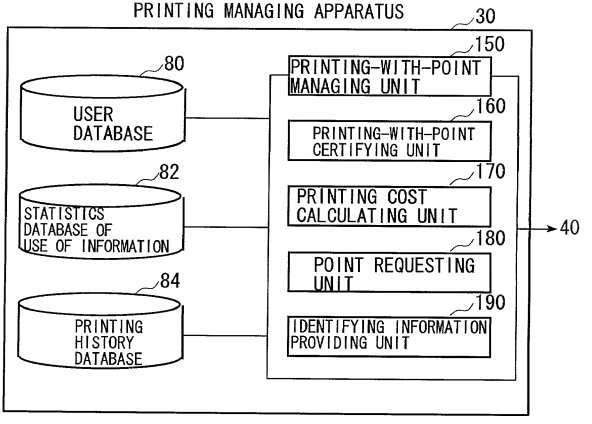
PRINTING MANAGING APPARATUS
30
80
USER DATABASE
82
STATISTICS DATABASE OF USE OF INFORMATION
84
PRINTING HISTORY DATABASE
150
PRINTING-WITH-POINT MANAGING UNIT
160
PRINTING-WITH-POINT CERTIFYING UNIT
170
PRINTING COST CALCULATING UNIT
180
POINT REQUESTING UNIT
190
IDENTIFYING INFORMATION PROVIDING UNIT
40

FIG . 4

USER DATABASE

80

USER ID	USER NAME	CONTACT INFORMATION	PRINTER ID	PRINTER TYPE	PAPER TYPE	INK CARTRIDGE TYPE	PRINTING COST PER SHEET (YEN)	ACCUMULATED POINTS	NUMBER OF SHEETS PRINTED IN A UNIT PERIOD
1	TARO YAMADA	XXX-XXXX-XXXX	1	CO. C, xxx	CO. C COATED PAPER	xxx	70	10000	9
2	HANAKO YAMADA	yy-yyyy-yyyy	2	CO. E, yyy	CO. E COATED PAPER	yyy	80	15000	6

FIG. 5

SATISTICS DATABASE OF USE OF INFORMATION

82

PRINTING SOURCE URL	MONTH	NUMBER OF PRINTING REQUESTS	NUMBER OF PURCHASES
http://abc.efg.co.jp	JANUARY	300	10
	FEBRUARY	350	5
	MARCH	250	15
http://hij.klm.co.jp	JANUARY	100	3
	FEBRUARY	50	2
	MARCH	150	10
http://opq.rst.co.jp	JANUARY	400	40
	FEBRUARY	600	12
	MARCH	500	35

FIG. 6

PRINTING HISTORY DATABASE 84

USER ID	POINT ISSUED DATE	OBJECT OF POINT ISSUANCE	PRINTING SOURCE URL	POINTS
1	JAN. 2	PRINT ADVERTISEMENT	http://abc.efg.co.jp	60
1	JAN. 2	PURCHASE AN ITEM WITH PRINTED ADVERTISEMENT WITH BAR CODE	http://abc.efg.co.jp	80
1	JAN. 3	PRINT ADVERTISEMENT	http://hij.klm.co.jp	70
1	JAN. 4	PRINT ADVERTISEMENT	http://opq.rst.co.jp	30

FIG. 7

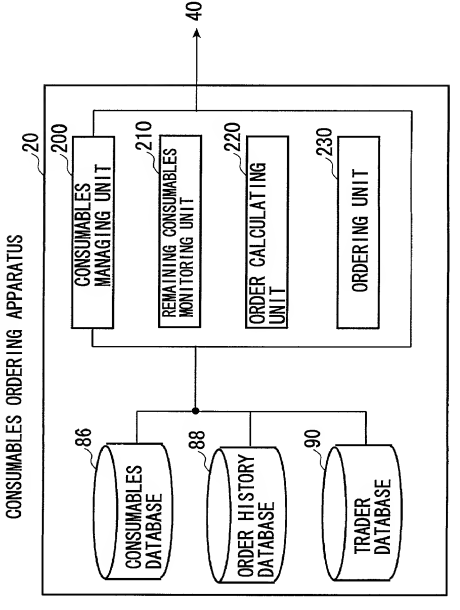
CONSUMABLES ORDERING APPARATUS
20
200
CONSUMABLES MANAGING UNIT
210
REMAINING CONSUMABLES MONITORING UNIT
220
ORDER CALCULATING UNIT
230
ORDERING UNIT
40
86
CONSUMABLES DATABASE
88
ORDER HISTORY DATABASE
90
TRADER DATABASE

FIG. 8

CONSUMABLES DATABASE 86

ITEM ID	TRADER ID	MARKET PRICE
1	1	750
1	2	750
1	3	700
2	1	760
2	2	760
2	3	800

FIG . 9

ORDER HISTORY DATABASE 88

USER ID	ORDER DATE	ITEM ID	NUMBER ID	TRADER ID	ORDERING EXPENSE
1	JAN. 1	2	2	6	700
1	JAN. 15	2	2	6	700
1	FEB. 1	2	2	6	700
1	FEB. 15	2	2	6	700

FIG . 10

TRADER DATABASE 90

TRADER ID	TRADER NAME	DELIVERABLE AREA	Tel	e-mail
1	ZZZ	xxx, City ×	XX-XXXX-XXXX	XX@XXXX
2	BBB	yyy, City y	YY-YYYY-YYYY	YY@YYYY

FIG . 11

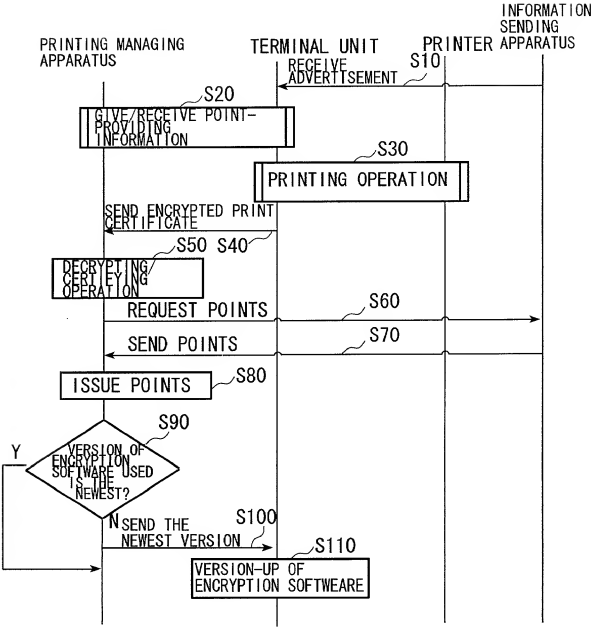
PRINTING MANAGING APPARATUS
TERMINAL UNIT
PRINTER
INFORMATION SENDING APPARATUS
RECEIVE ADVERTISEMENT
S10
S20
GIVE/RECEIVE POINT-PROVIDING INFORMATION
S30
PRINTING OPERATION
SEND ENCRYPTED PRINT CERTIFICATE
S50
S40
DECRYPTING/CERTIFYING OPERATION
REQUEST POINTS
S60
SEND POINTS
S70
ISSUE POINTS
S80
S90
Y
VERSION OF ENCRYPTION SOFTWARE USED IS THE NEWEST?
N
SEND THE NEWEST VERSION
S100
S110
VERSION-UP OF ENCRYPTION SOFTWEARE

FIG . 12

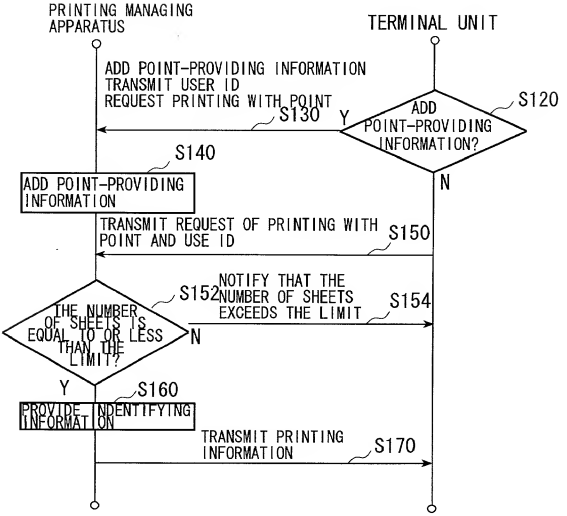
PRINTING MANAGING APPARATUS
TERMINAL UNIT
ADD POINT-PROVIDING INFORMATION
TRANSMIT USER ID
REQUEST PRINTING WITH POINT
S130
ADD POINT-PROVIDING INFORMATION?
S120
Y
N
S140
ADD POINT-PROVIDING INFORMATION
TRANSMIT REQUEST OF PRINTING WITH POINT AND USE ID
S150
NOTIFY THAT THE NUMBER OF SHEETS EXCEEDS THE LIMIT
S154
S152
THE NUMBER OF SHEETS IS EQUAL TO OR LESS THAN THE LIMIT?
N
Y
S160
PROVIDE IDENTIFYING INFORMATION
TRANSMIT PRINTING INFORMATION
S170

FIG . 13

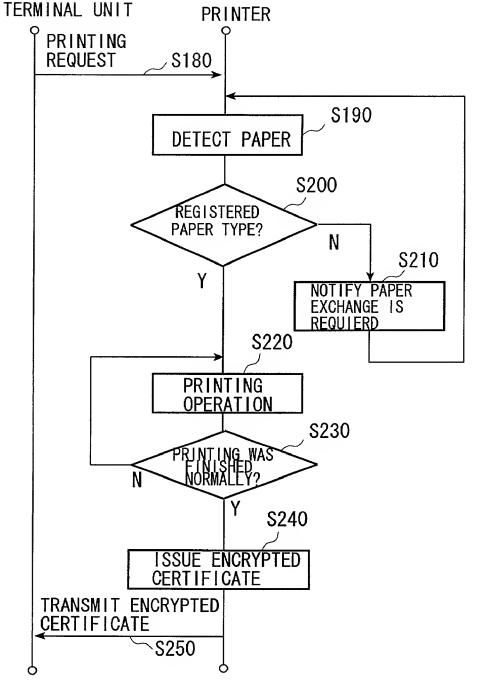
TERMINAL UNIT
PRINTER
PRINTING REQUEST
S180
S190
DETECT PAPER
S200
REGISTERED PAPER TYPE?
N
Y
S210
NOTIFY PAPER EXCHANGE IS REQUIERD
S220
PRINTING OPERATION
S230
PRINTING WAS FINISHED NORMALLY?
N
Y
S240
ISSUE ENCRYPTED CERTIFICATE
TRANSMIT ENCRYPTED CERTIFICATE
S250

FIG . 14

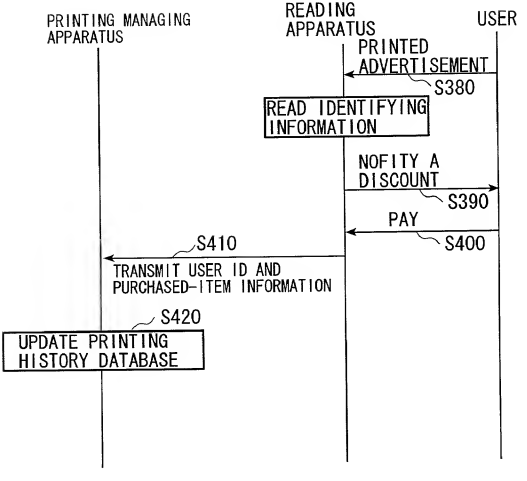
PRINTING MANAGING APPARATUS
READING APPARATUS
USER
PRINTED ADVERTISEMENT
S380
READ IDENTIFYING INFORMATION
NOFITY A DISCOUNT
S390
PAY
S400
S410
TRANSMIT USER ID AND PURCHASED-ITEM INFORMATION
S420
UPDATE PRINTING HISTORY DATABASE

FIG . 15

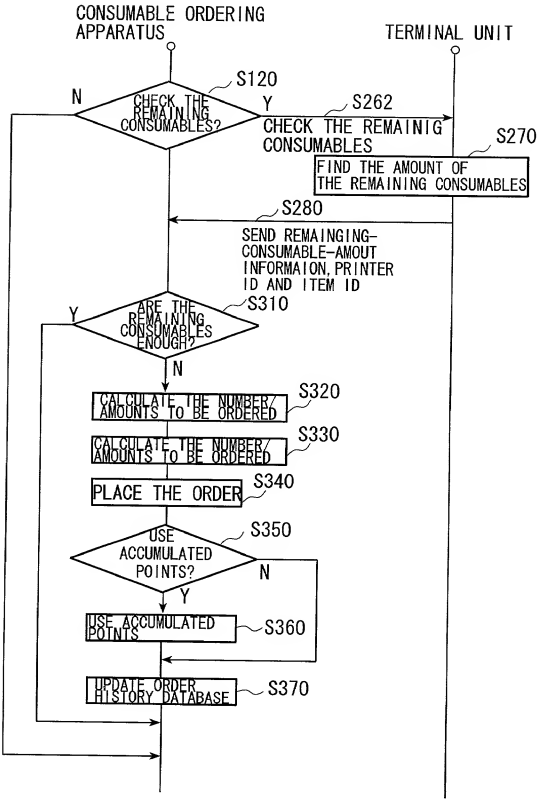
CONSUMABLE ORDERING APPARATUS
TERMINAL UNIT
S120
CHECK THE REMAINING CONSUMABLES?
N
Y
S262
CHECK THE REMAINIG CONSUMABLES
S270
FIND THE AMOUNT OF THE REMAINING CONSUMABLES
S280
SEND REMAINING-CONSUMABLE-AMOUT INFORMAION, PRINTER ID AND ITEM ID
S310
ARE THE REMAINING CONSUMABLES ENOUGH?
Y
N
S320
CALCULATE THE NUMBER/ AMOUNTS TO BE ORDERED
S330
CALCULATE THE NUMBER/ AMOUNTS TO BE ORDERED
S340
PLACE THE ORDER
S350
USE ACCUMULATED POINTS?
N
Y
USE ACCUMULATED POINTS
S360
UPDATE ORDER HISTORY DATABASE
S370

FIG . 16